

REMARKS

The Application has been carefully reviewed in light of the Office Action dated November 3, 2004. Claims 1 to 31 are in the application, of which Claims 1, 11, 16, 25, 30 and 31 are independent. Claim 16 is being amended. Reconsideration and further examination are respectfully requested.

With regard to a formal matter, the Office Action objects to the drawings. While the Office Action identifies element S307 of Figure 5, it is assumed that Figure 6 was actually intended, since element S307 appears in Figure 6 and does not appear in Figure 5. In response, Figure 6 is being amended to change "Stope" to read "Stop". A replacement drawing sheet accompanies this paper.

By the Office Action, Claims 1 to 3, 5 to 12, 14 to 17, 19 to 26 and 28 to 31 are rejected under 35 U.S.C. § 102(b) over U.S. Patent No. 5,737,552 (Lavallee), and Claims 4, 13, 18 and 27 are rejected under 35 U.S.C. § 103(a) over Lavallee and U.S. Patent No. 6,348,929 (Acharya). The claim rejections are herein traversed.

The present invention generally concerns playback of a movie which includes scenes and frames within the scene. A scene in the movie having a representative frame. According to the present invention, information about a scene is stored, including data for the representative frame, data for an interval of the scene, and data for a hierarchical level of the scene. Images of the representative frames are read from storage, and chronologically displayed. A playback device plays back a scene corresponding to a displayed representative frame image. For example, Figure 5 of the present application shows a display which has a playback window 501 playing scenes from a movie, and

which also displays frame images (i.e., corresponding to elements 505(1), 505(2) and 505(3)) representative of scenes from the movie.

Advantageously, scenes from a movie can be identified using the image of a frame representative of the scene. Thus, for example, navigation between scenes for playback can be facilitated.

Turning to the specific language of the claims, Claim 1 defines an image processing apparatus comprising a storage device, a display device and a playback device. The storage device stores scene information including, at least, data for a representative frame of a scene, data for an interval of the scene and data for a hierarchical level of the scene of each of a plurality of scenes included in a moving picture that is subject to a playback. The display device reads images of the representative frames of the plurality of scenes from the storage device and chronologically displays the images based on an external designation of the hierarchical level. The playback device plays back the scene corresponding to the images of the representative frames displayed by the display device based on an external playback instruction.

The applied art, namely Lavallee, is not seen to show each and every one of the above-identified features, particularly as regards a representative frame of a scene of a moving picture, for which data is stored and a corresponding image is read and displayed by a display device based on an external designation of a hierarchical level, and a playback device plays back the scene corresponding to the images of the representative frames displayed by the display device.

Lavallee is seen to describe linear playback of a program and interactively

providing the viewer with the ability to view additional information about a scene. As described commencing at col. 4, line 52, Lavallee is seen to describe a user requesting more information from a scene, i.e., scene 2, in which an athlete is endorsing equipment. In response to the user request to view additional detail concerning the endorsement, a scene 2.1 is displayed about a stationary bicycle. Figure 2 of Lavallee is seen to show frames and an SMPTE time code, which identifies the hour, minute, second and frame number of the frame. Figure 3 of Lavallee is seen to show frames from scenes of a program. Each frame has an associated SMPTE time code, together with an SMPTE time code for a frame which is to be displayed if additional information is requested, and an SMPTE time code for a frame to be displayed when returning to the program. Thus, for example, if additional information is requested in frame 8 of scene 2 of the program, i.e., the "05:32:21:08" frame, a frame with the requested additional information, the "21:11:18:04" frame, is displayed. When the user is finished viewing the additional information and desires to return to the main program, the main program beginning with the "05:32:21:11" frame of scene 2 of the program is displayed.

Lavallee's time code, which is assigned to each frame in scenes of a program is not seen to show data stored for a representative frame of a scene. In addition, Lavallee is not seen to show a representative frame of a scene, for which a corresponding image is read and displayed by a display device based on an external designation of a hierarchical level, and a playback device plays back the scene corresponding to the images of the representative frames displayed by the display device.

Therefore, for at least the foregoing reasons, Claim 1 is believed to be in condition for allowance. Further, Applicants submit that Claim 30 is believed to be in condition for allowance for at least the same reasons.

Claim 11 defines an image processing apparatus which comprises a storage device and a display device. The storage device stores scene information including, at least, data for a representative frame of a scene and data for a hierarchical level of the scene of each of a plurality of scenes included in a moving picture that is subject to a playback. The display device reads images of the representative frames of the plurality of scenes from the storage device and chronologically displays the images based on an external designation of the hierarchical level.

Based on the above discussion, the applied art is not seen to show each and every one of the above-identified features, particularly as regards a storage device storing scene information, including data for a representative frame of a scene and data for a hierarchical level of the scene, for each scene included in a moving picture that is subject to a playback, and a display device reading images of the representative frames and chronologically displaying the images based on an external designation of the hierarchical level.

Therefore, for at least the foregoing reasons, Claim 11 is believed to be in condition for allowance. Further, Applicants submit that Claim 31 is believed to be in condition for allowance for at least the same reasons.

Claim 16 recites an image processing method. According to the method, scene information is stored, which includes, at least, data for a representative frame of a

scene, data for an interval of the scene and data for a hierarchical level of the scene of each of a plurality of scenes included in a moving picture that is subject to a playback. A hierarchical level is designated, and images of the representative frames of the scenes stored in the storing step are chronologically displayed. An external designation of a hierarchical level is received, and images of the representative frames of the scenes stored in the storing step are chronologically displayed, based on the external designation of the hierarchical level. A scene is played back which corresponds to the images of the representative frames displayed by the display device based on an external playback instruction.

As discussed above, Lavallee is not seen to show a representative frame of a scene of a moving picture. In addition, as noted above, Lavallee is not seen to show storing data for a representative frame of a scene, and chronologically displaying images of representative frames of the scenes, and playing back a scene which corresponds to an image of the representative frames displayed by the displayed device based on an external playback instruction.

Therefore, for at least the foregoing reasons, Claim 25 is believed to be in condition for allowance.

The other claims are each dependent from the independent claims discussed above and are therefore believed patentable for the same reasons. Because each dependent claim is also deemed to define an additional aspect of the invention, however, the individual consideration of each on its own merits is respectfully requested.


In this regard, the art applied against dependent claims, namely Acharya,

has been reviewed and is not seen to remedy the deficiencies noted above with respect to Lavallee.

In view of the foregoing, the entire application is believed to be in condition for allowance, and such action is respectfully requested at the Examiner's earliest convenience.

Applicants' undersigned attorney may be reached in our Costa Mesa, California office by telephone at (714) 540-8700. All correspondence should be directed to our address given below.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Carole A. Quinn", is written over a horizontal line.

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